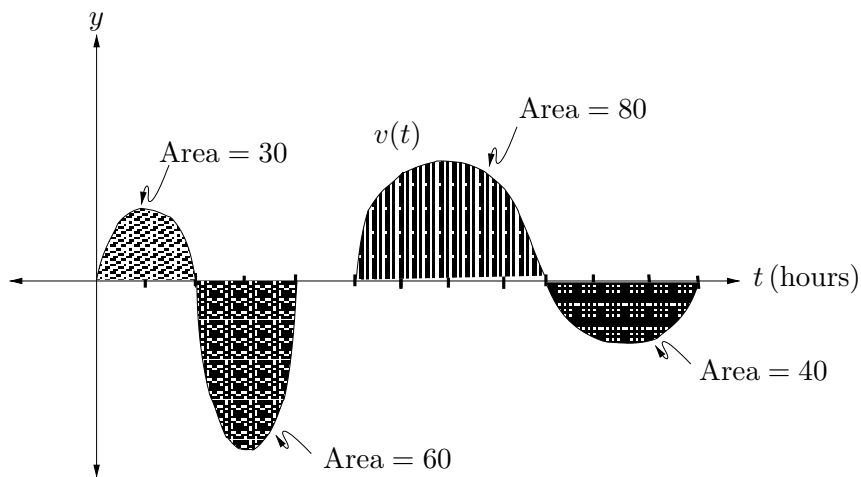


7. (13 points) The following graph gives a taxi driver's velocity (in miles per hour) as a function of time. Assume the driver only travels on a straight road east and west. Positive velocity indicates travel to the east, negative velocity indicates travel to the west. Assume the driver starts his day at the airport at 6 am when  $t = 0$ , and that the intervals between each tick mark on the horizontal axis correspond to one hour. The area of each shaded region is indicated on the graph.



- (a) At approximately what time(s) is the driver's acceleration 0?
- (b) If the taxi driver takes a break at 10 am, how far is he from the airport? Be sure to note whether he is east or west of the airport. Justify your answer appropriately.
- (c) At what time is the driver the furthest from the airport? How far away is he at this time?
- (d) How many times after 6 am during the day does the driver pass the airport?